

ATOMIC LAYER DEPOSITION SYSTEMS AND METHODS

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5

ABSTRACT OF THE INVENTION

Atomic layer deposition systems and methods are disclosed utilizing a multi-wafer sequential processing chamber. The process gases are sequentially rotated among the wafer stations to deposit a portion of a total deposition thickness on each wafer at each station. A rapid rotary switching of the process gases eliminates having to divert the process gases to a system vent and provides for atomic layer film growth sufficient for high-volume production applications. Conventional chemical vapor deposition can also be performed concurrently with atomic layer deposition within the multi-wafer sequential processing chamber.